



ADDITIVES &  
SUPPLEMENTS



FEED  
COMMODITIES



ROUGHAGE  
PRODUCTS



FORAGE  
PRODUCTS



**ORAJ**  
TRADING & SERVICES



**ORRAJ**  
TRADING & SERVICES

# ABOUT US

Orraj Trading and Services is a company that specializes in distributing and trading animal feed throughout Qatar and the Middle east. It was established in 2015 and is based in Qatar.

## MISSION

“As a market leader we thrive to provide quality products, service expertise, and to deliver our customers needs.”

## VISION

“To produce, distribute, and deliver finest quality of all natural animal feed grown from the earths' best farms and lands.

We will harness our passion, knowledge and energy to provide goods and services that are necessary for life, health and growth.”





## VALUES

### Uncompromising Integrity

Our tradition of ethical and honest business conduct is the foundation of our company by building trust with customers, suppliers and one another, by doing what is right.

### Transparency

We ensure openness, communication, and accountability in our various engagements.

### Service Excellence

We will provide the best value to our customers through continuously improving our processes and cost structure.

### Social responsibility

Our responsibility is to set standards of ethical behavior for the industry, giving back to the community and complying with regulations.

# PRODUCT PORTFOLIO



## FORAGE PRODUCTS

### Hay Products

- Suncured alfalfa
- Dehydrated alfalfa

### Grass Products

- Rhodes grass
- Ryegrass hay
- Fescue grass
- Timothy hay



## ROUGHAGE PRODUCTS

### Straw Products

- Wheat straw
- Barley straw
- Rice straw

### Other Hay Products

- Corn silage
- Dehydrated corn silage
- Bedding straw
- Bedding wood



## FEED COMMODITIES

### Hay & Straw Pellets

- Alfalfa pellets
- Wheat bran pellets
- Wheat straw pellets

### Other Commodities

- Sugar beet pulp
- Cottonseed
- Feed Barley
- Feed Wheat
- Feed Corn
- Sorghum
- DDGS
- Citrus Pulp
- Molasses
- Sunflower meal/ seed
- Rapeseed meal/ seed
- Soybean meal/ seed
- Fish meal
- Wheat bran
- Soy bean hulls



## ADDITIVES & SUPPLEMENTS

### Additives + Premixes

- Vitamins and Minerals
- Amino Acids
- Molasses / Dry Molasses

### Supplements

- TMR Feeds
- Engineered-to-Order feeds

# SOURCING



## Sourcing activity:

- Sourcing from more than 30 origins
- Established relations and agreements with preferred suppliers for each product category
- Year-round and across all seasons products availability as a result of our geographic diversification



# PRODUCT QUALITY

We ensure our customers that our products will reach all their expectations and satisfy their needs, by having field quality control as well as outbound plant quality control.

And we'll make that happen by:

- Visual inspections
- Moisture testing
- Lab/ PCR testing
- Customer specs matching
- Using a 3rd party quality control company



## FIELD QUALITY CONTROL

- Diversified sourcing through multiple channels: partner farms, long-term suppliers, spot market
- On going inspections, testing and authorization of seed varieties, raw material / fertilizers applied
- Field visits during various farming stages: planting, growing, harvesting and cutting
- Precise product labeling (stack number, grower, field, cutting, information...)
- Core sampling and analysis by certified laboratories as per final destination and customer requirements
- General inspection before product movement to the factory

visual inspection ✓ moisture testing ✓ lab / PCR testing ✓

## OUTBOUND PLANT QUALITY CONTROL

- Product storage in closed and controlled warehouses
- Completion of the proprietary «Triple Check System» where every order is subjected to a minimum three QC inspections, testing for conformity to physical and chemical criteria
- Physical inspection of containers record and picture keeping of all shipments
- Internal traceability of each bale / pellet /bad throughout all production stages
- Online customer shipment tracking functionality

visual inspection ✓ moisture testing ✓ customer specs matching ✓







# FORAGE CATEGORY





# OUR PRODUCTS



## SUNCURED ALFALFA



|                 |  |        |       |       |        |         |         |
|-----------------|--|--------|-------|-------|--------|---------|---------|
| Dairy           | Beef                                       | Camels | Goats | Sheep | Horses | Rabbits | Poultry |
| Origins:        | USA, Egypt, South Africa, Sudan, Argentina |        |       |       |        |         |         |
| Grades:         | Supreme, Premium, Standard, Economy        |        |       |       |        |         |         |
| Moisture Level: | +/- 12%                                    |        |       |       |        |         |         |
| Protein Range:  | 16% to 22% (depending on grade and origin) |        |       |       |        |         |         |
| NDF Range:      | 30% to 52% (depending on grade and origin) |        |       |       |        |         |         |
| ADF Range:      | 28% to 38% (depending on grade and origin) |        |       |       |        |         |         |
| Bale (Kg)       | 18 - 50 - 600                              |        |       |       |        |         |         |



## DEHYDRATED ALFALFA



|                 |  |        |       |       |        |         |         |
|-----------------|--|--------|-------|-------|--------|---------|---------|
| Dairy           | Beef                                       | Camels | Goats | Sheep | Horses | Rabbits | Poultry |
| Origins:        | Spain, Italy, France, Romania              |        |       |       |        |         |         |
| Grades:         | Supreme, Premium, First, Standard          |        |       |       |        |         |         |
| Moisture Level: | +/- 12%                                    |        |       |       |        |         |         |
| Protein Range:  | 14% to 20% (depending on grade and origin) |        |       |       |        |         |         |
| NDF Range:      | 38% to 52% (depending on grade and origin) |        |       |       |        |         |         |
| ADF Range:      | 28% to 38% (depending on grade and origin) |        |       |       |        |         |         |
| Bale (Kg)       | 25 - 50 - 600                              |        |       |       |        |         |         |











## RHODES GRASS



|                 |                                  |        |       |       |        |         |         |
|-----------------|----------------------------------|--------|-------|-------|--------|---------|---------|
| Dairy           | Beef                             | Camels | Goats | Sheep | Horses | Rabbits | Poultry |
| Origins:        | Pakistan                         |        |       |       |        |         |         |
| Grades:         | not applicable                   |        |       |       |        |         |         |
| Moisture Level: | +/- 12%                          |        |       |       |        |         |         |
| Protein Range:  | 6% to 16% (depending on origin)  |        |       |       |        |         |         |
| NDF Range:      | 50% to 60% (depending on origin) |        |       |       |        |         |         |
| ADF Range:      | 30% to 45% (depending on origin) |        |       |       |        |         |         |
| Bale (Kg)       | 10 - 18 - 350 - 500              |        |       |       |        |         |         |











## RYEGRASS HAY

|   |   |   |   |   |   |  |   |
|---|---|---|---|---|---|--|---|
|  |  |  |  |  |  |  |  |
| Dairy   | Beef  | Camels  | Goats   | Sheep   | Horses  | Rabbits  | Poultry   |
| Origins:  |   | Spain, Italy, USA   |   |   |   |  |   |
| Grades:   |   | Suncured, Dehydrated  |   |   |   |  |   |
| Moisture Level:   |   | +/- 12%   |   |   |   |  |   |
| Protein Range:  |   | +/- 12%   |   |   |   |  |   |
| NDF Range:  |   | 8% to 12% (depending on origin)   |   |   |   |  |   |
| ADF Range:  |   | 30% to 42% (depending on origin)  |   |   |   |  |   |



## FESCUE GRASS

|   |   |   |   |   |   |  |   |
|---|---|---|---|---|---|--|---|
|  |  |  |  |  |  |  |  |
| Dairy   | Beef  | Camels  | Goats   | Sheep   | Horses  | Rabbits  | Poultry   |
| Origins:  |   | USA, Spain  |   |   |   |  |   |
| Grades:   |   | Suncured, Dehydrated  |   |   |   |  |   |
| Moisture Level:   |   | +/- 12%   |   |   |   |  |   |
| Protein Range:  |   | 8% to 12% (depending on origin)   |   |   |   |  |   |
| NDF Range:  |   | 50% to 62% (depending on origin)  |   |   |   |  |   |
| ADF Range:  |   | 30% to 40% (depending on origin)  |   |   |   |  |   |



## TIMOTHY HAY

|   |   |   |   |   |   |  |   |
|---|---|---|---|---|---|--|---|
|  |  |  |  |  |  |  |  |
| Dairy   | Beef  | Camels  | Goats   | Sheep   | Horses  | Rabbits  | Poultry   |
| Origins:  |   | USA   |   |   |   |  |   |
| Grades:   |   | Premium Horse, 1# Horse, Super Premium, Premium 1#, Premium 2#                      |   |   |   |  |   |
| Moisture Level:   |   | +/- 12%   |   |   |   |  |   |
| Protein Range:  |   | 6% to 12% (depending on origin)   |   |   |   |  |   |
| NDF Range:  |   | 50% to 60% (depending on origin)  |   |   |   |  |   |
| ADF Range:  |   | 30% to 40% (depending on origin)  |   |   |   |  |   |





# ROUGHAGE CATEGORY





# OUR PRODUCTS



## WHEAT STRAW



|                 |                                      |
|-----------------|--------------------------------------|
| Origins:        | USA, Spain, Italy, Romania, Pakistan |
| Grades:         | not applicable                       |
| Moisture Level: | 8% to 12% (depending on origin)      |
| Protein Range:  | 3% to 6% (depending on origin)       |
| NDF Range:      | 55% to 70% (depending on origin)     |
| ADF Range:      | 33% to 50% (depending on origin)     |
| Bale (Kg)       | 10 - 18 - 25 - 600                   |



## BARLEY STRAW



|                 |   |
|-----------------|---|
| Origins:        | Spain   |
| Grades:         | Supreme, Premium, Standard, Economy, Suncured, Dehydrated |
| Moisture Level: | 8%  |
| Protein Range:  | 5%  |
| NDF Range:      | 56% to 60%  |
| ADF Range:      | 33% to 39%  |



## RICE STRAW



|                 |                |
|-----------------|----------------|
| Origins:        | USA            |
| Grades:         | not applicable |
| Moisture Level: | < 12 %         |
| Protein Range:  | 4% to 5%       |
| NDF Range:      | 61% to 62%     |
| ADF Range:      | 50% to 51%     |



## CORN SILAGE

| Dairy                               | Beef                                | Camels                              | Goats                               | Sheep                               | Horses                   | Rabbits                  | Poultry                  |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Origins:                            |                                     | Romania (Wet Silage), Pakistan      |                                     |                                     |                          |                          |                          |
| Grades:                             |                                     | not applicable                      |                                     |                                     |                          |                          |                          |
| Moisture Level:                     |                                     | 10%                                 |                                     |                                     |                          |                          |                          |
| Protein Range:                      |                                     | 7.5% to 9%                          |                                     |                                     |                          |                          |                          |
| NDF Range:                          |                                     | 40% to 45%                          |                                     |                                     |                          |                          |                          |
| ADF Range:                          |                                     | 30% to 33%                          |                                     |                                     |                          |                          |                          |
| Bale (Kg)                           |                                     | 80 - 400                            |                                     |                                     |                          |                          |                          |



## DEHYDRATED CORN SILAGE

| Dairy                               | Beef                                | Camels                              | Goats                               | Sheep                               | Horses                   | Rabbits                  | Poultry                  |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Origins:                            |                                     | Spain (Dehydrated Silage)           |                                     |                                     |                          |                          |                          |
| Grades:                             |                                     | not applicable                      |                                     |                                     |                          |                          |                          |
| Energy:                             |                                     | $\geq 1.48$ Mcal/Kg (dry)           |                                     |                                     |                          |                          |                          |
| Starch:                             |                                     | $\geq 30\%$                         |                                     |                                     |                          |                          |                          |



## BEDDING WOOD

| Dairy                               | Beef                                | Camels                              | Goats                               | Sheep                               | Horses                              | Rabbits                             | Poultry                             |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Origins:                            |                                     | Vietnam, Spain, Italy               |                                     |                                     |                                     |                                     |                                     |







# FEED COMMODITIES





# OUR PRODUCTS



## ALFALFA PELLETS

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| Dairy   | Beef  | Camels  | Goats   | Sheep   | Horses  | Rabbits   | Poultry   |
| Origins:  | Spain, Italy, France, USA   |   |   |   |   |   |   |
| Grades:   | Supreme, Premium, First, Standard   |   |   |   |   |   |   |
| Moisture Level:   | 10% to 12% (depending on grade and origin)  |   |   |   |   |   |   |
| Protein Range:  | 14% to 22% (depending on grade and origin)  |   |   |   |   |   |   |
| NDF Range:  | 32% to 59% (depending on grade and origin)  |   |   |   |   |   |   |
| ADF Range:  | 21% to 40% (depending on grade and origin)  |   |   |   |   |   |   |




## WHEAT BRAN PELLETS

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| Dairy   | Beef  | Camels  | Goats   | Sheep   | Horses  | Rabbits   | Poultry   |
| Origins:  | Italy, Greece, India, Turkey  |   |   |   |   |   |   |
| Grades:   | not applicable  |   |   |   |   |   |   |
| Moisture Level:   | 14% Maximum   |   |   |   |   |   |   |
| Protein Range:  | 14% to 16% (depending on origin)  |   |   |   |   |   |   |
| NDF Range:  | 54% to 56% (depending on origin)  |   |   |   |   |   |   |
| ADF Range:  | 40% to 42% (depending on origin)  |   |   |   |   |   |   |



## WHEAT STRAW PELLETS

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| Dairy   | Beef  | Camels  | Goats   | Sheep   | Horses  | Rabbits   | Poultry   |
| Origins:  | Spain, Italy, Romania   |   |   |   |   |   |   |
| Grades:   | not applicable  |   |   |   |   |   |   |
| Moisture Level:   | 12%   |   |   |   |   |   |   |
| Protein Range:  | 4% (depending on origin)  |   |   |   |   |   |   |
| NDF Range:  | 54% to 56% (depending on origin)  |   |   |   |   |   |   |
| ADF Range:  | 40% to 42% (depending on origin)  |   |   |   |   |   |   |



## SUGAR BEET PULP

### Origins:

France, Serbia, Germany, Austria, Croatia, Russia, Egypt



## FEED CORN

### Origins:

Romania, Brazil, Russia, Ukraine, Moldova, Bulgaria, USA, Argentina, Paraguay



## COTTONSEED

### Origins:

Greece, Brazil, Australia, Argentina



## SORGHUM

### Origins:

Ukraine, Moldova



## FEED BARLEY

### Origins:

Romania, Ukraine, Brazil, Argentina, Russia, Bulgaria



## DDGS

### Origins:

USA, Argentina



## FEED WHEAT

### Origins:

Brazil, Russia, Ukraine, Moldova



## CITRUS PULP

### Origins:

Brazil





## MOLASSES

**Origins:**

Russia, Brazil  
India,  
Pakistan



## FISH MEAL PELLETS

**Origins:**

Peru, Chile



## SUNFLOWER SEED

**Origins:**

Ukraine, Moldova  
Romania,  
Bulgaria



## RAPESEED MEAL

**Origins:**

Russia,  
Romania,  
Bulgaria



## RAPESEED SEED

**Origins:**

Russia, Ukraine,  
Moldova,  
Romania,  
Bulgaria



## SOYBEAN BEAN

**Origins:**

Ukraine, Moldova,  
Paraguay,  
Brazil,  
Argentina



## SOYBEAN SEED

**Origins:**

Ukraine,  
Moldova,  
Argentina,  
Paraguay



## WHEAT BRAN

**Origins:**

Pakistan, Lebanon



## SOY BEAN HULLS

**Origins:**

Lebanon





# ADDITIVES & SUPPLEMENTS





# GREENPHOS

## Excellent PHOSPHATE PRODUCTS

Reach high value with high available phosphorus content.

We bring you the best quality with excellent raw materials, continuous sample test. We have a wide range of standard and tailor-made solutions, serving all of your need. BAF offers technical services to poultry, cattle farmers and feed mills.



**TESTED**  
raw materials



**NO**  
animal sources



**LOW**  
heavy metal content



**CONSISTENTLY**  
high quality



**HIGH**  
solubility in citric acid (2%)



**MADE FROM**  
phosphoric acid

### COMPOSITION

|                                |                                | Phosphorus (P)              | Calcium (Ca) | Magnesium (Mg)            | Particle size                              |
|--------------------------------|--------------------------------|-----------------------------|--------------|---------------------------|--|
| <b>GREENPHOS M.C.P. - 22.7</b> | Mono Calcium Phosphate         | 22,7 %<br>( $\sigma=0.25$ ) | 16-17 %      | —                         | granular<br>0,25mm < 80-90% < 1,8mm        |
| <b>GREENPHOS D.C.P. - 18</b>   | Di-Calcium Phosphate Dihydrate | 18,0 %<br>( $\sigma=0.25$ ) | 24-25 %      | —                         | granular<br>80% 0,25-1,8mm<br>20% < 0,25mm |
| <b>GREENPHOS D.C.P. - 18</b>   | Di-Calcium Phosphate Dihydrate | 18,0 %<br>( $\sigma=0.25$ ) | 24-25 %      | —                         | 100 % < 1,8 mm                             |
| <b>GREENPHOS M.D.C.P. - 21</b> | Mono Di-Calcium Phosphate      | 21,0 %<br>( $\sigma=0.25$ ) | 19-20 %      | —                         | granular<br>0,25mm < 80-90% < 1,8mm        |
| <b>GREENPHOS M.G.P.</b>        | Magnesium Phosphate            | 14,0 %<br>( $\sigma=0.25$ ) | —            | 26 %<br>( $\sigma=0.25$ ) | granular<br>0,25mm < 80-90% < 1,8mm        |

Phosphorus supplementation is essential on a regular basis to fulfill the needs of the animals. Our GREENPHOS products content high available phosphorus (P) to reach outstanding performance.



**EXPERIENCED**  
production department

**CAPACITY**  
phosphates  
tons/month

**LABORATORY  
SAMPLE TEST**  
every hour

#### USAGE:

According to good feeding practices.

# Efficient MYCOTOXIN BINDER

Mycotoxins are the invisible thieves or hidden danger in animal feed for the health and productions of the animals.

KeyTox binds mycotoxins in the intestine and it is effective to reduce the transfer to milk, meat and eggs.

☛ We bring you the best quality with excellent raw materials, continuous sample tests. We have a wide range of standard and tailor-made solutions, serving all of your need. BAF offers technical services to poultry, cattle farmers and feed mills.



**EFFICIENT**  
toxin binder



**BROAD**  
binding spectrum



**BOOST**  
immun system



**RECOVER**  
organ status



**REDUCE**  
medical cost







**IMPROVE**  
production results

## USAGE:




| BROILER                    | LAYER                      | RUMINANT          |
|----------------------------|----------------------------|-------------------|
| Keytox 1-2 kg/ton          | Keytox 1-2 kg/ton          | 10-30 gr/day/head |
| Keytox Ultra 0,5-1 kg/ton  | Keytox Ultra 0,5-1 kg/ton  |                   |
| Keytox Plus 0,5-1 kg/ton   | Keytox Plus 0,5-1 kg/ton   |                   |
| Keytox Select 0,5-1 kg/ton | Keytox Select 0,5-1 kg/ton |                   |






## COMPOSITION

|   | Clay minerals                       | Yeast cell wall                     | Plant extract                       |   |
|---|-------------------------------------|-------------------------------------|-------------------------------------|---|
|  <b>KeyTox</b>         | <input checked="" type="checkbox"/> |                                     |                                     | Efficient for aflatoxin (polar mycotoxins, ion-exchange capacity) |
|  <b>KeyTox ULTRA</b>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     | Broad spectrum, masked mycotoxins (FUM, T2-, ZEA, DON, OTA)       |
|  <b>KeyTox PLUS</b>    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Broad spectrum, masked mycotoxins (FUM, T2-, ZEA, DON, OTA)       |
|  <b>KeyTox SELECT</b> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Extreme condition (Broad spectrum, liver protection)              |

The first step is to keep control the raw materials and be aware which mycotoxins are you dealing with and which level is harmful to your livestock. A lower mycotoxin level can impact the immune system, performance and on a long term can cause several problems.

## IMPACT OF MYCOTOXINS

|  |  |   |
|--|--|---|
| <br><b>AF, FUM, DON</b><br>liver damage, rumen flora changes, impaired metabolism<br>↓<br>REDUCED WEIGHT GAIN, MILK PRODUCTION, MILK QUALITY, MILK CONTAMINATION | <br><b>OTA</b><br>kidney damage diarrhea<br>↓<br>REDUCED FEED INTAKE, MILK PRODUCTION | <br><b>ZEA</b><br>vaginitis, fertility problems<br>↓<br>POOR REPRODUCTIVE PERFORMANCE, DECREASED MILK PRODUCTION |
|--|--|---|

|   |   |  |  |  |
|---|---|--|--|--|
| <br><b>T-2</b><br>gastroenteritis, intestinal haemorrhages<br>↓<br>LOW FEED CONSUMPTION, DECREASED MILK PRODUCTION | <br><b>AF, FUM, DON</b><br>liver damage, reduced protein synthesis, residues in egg, muscle<br>↓<br>DECREASED EGG PRODUCTION, EGG QUALITY, BREAST YIELD, HUMAN CONSUMPTION | <br><b>OTA</b><br>kidney damage, urine spots<br>↓<br>DECREASED EGG PRODUCTION, PRODUCTIVITY, DIRTY EGG | <br><b>ZEA</b><br>reproductive disorders<br>↓<br>POOR PERFORMANCE | <br><b>T-2</b><br>oral and dermal lesions, impaired feathering, gizzard erosion<br>↓<br>DECREASED FEED INTAKE, YIELD, EGG QUALITY |
|---|---|--|--|--|

## Strong IMMUNE SYSTEM

GreenMos maintains intestinal health, reduces pathogenic microflora in the intestines.

✓ We bring you the best quality with excellent raw materials, continuous sample tests. We have a wide range of standard and tailor-made solutions, serving all of your need. BAF offers technical services to poultry, cattle farmers and feed mills.



**REDUCE**  
colonization  
of pathogens



**IMPROVE**  
intestinal  
structure



**IMPROVE**  
nutrient  
availability



**IMPROVE**  
production  
results



**REDUCE**  
disease  
incidence



**REDUCE**  
medical  
costs



**BETTER**  
overall  
health



**ALTERNATIVE**  
to antibiotics  
for disease

### USAGE:

|                            |                            |                           |  |
|----------------------------|----------------------------|---------------------------|--|
| <b>BROILER</b><br>1 kg/ton | <b>LAYER</b><br>0.5 kg/ton | <b>CALF</b><br>1-2 kg/ton | <b>DAIRY/BEEF</b><br>10-20 gr/day/head |
|----------------------------|----------------------------|---------------------------|--|

### COMPOSITION



#### GLUCAN

Beta-glucans are important because of their ability to have a positive effect on the immune system by activating white blood cells to increase resistance to infections.



#### MANNAN

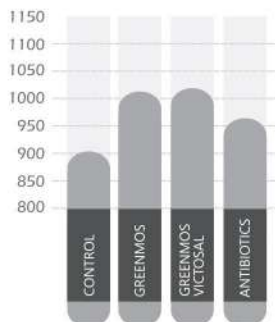
Oligosaccharides are long sugar chains with prebiotic effect. Each of the MOS molecules will have lots of mannose molecules. Each mannose molecule represents a potential binding surface for the fimbriae on a bacteria such as E.coli and Salmonella.



#### PROTEIN

The structural protein bonds to oligosaccharide to form a complex mannoprotein structure in which glucosamine acts as the connecting link between the oligosaccharides and proteins.

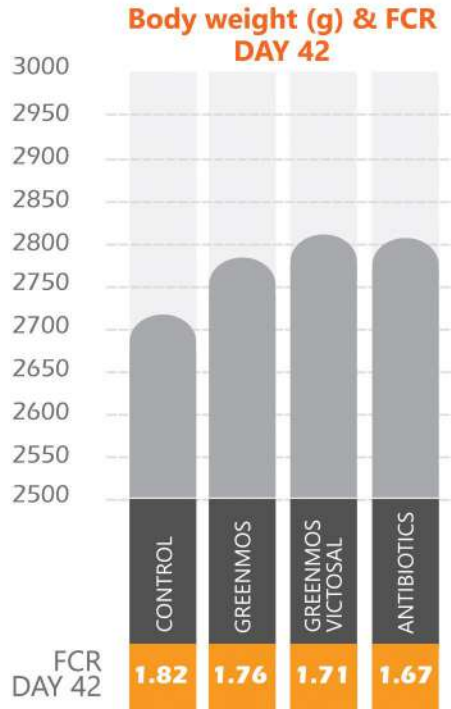
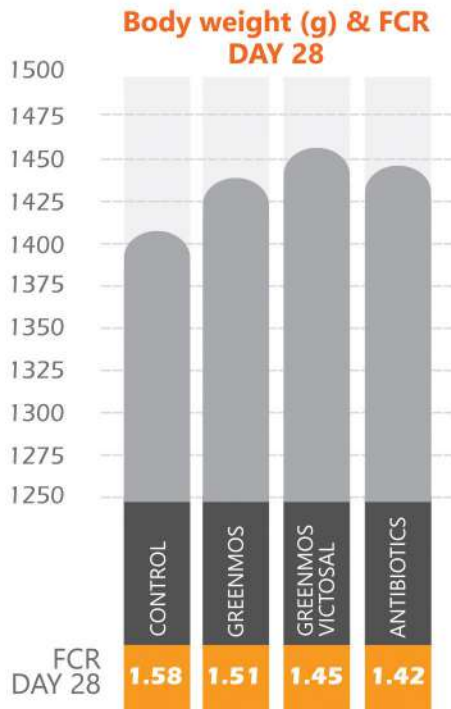
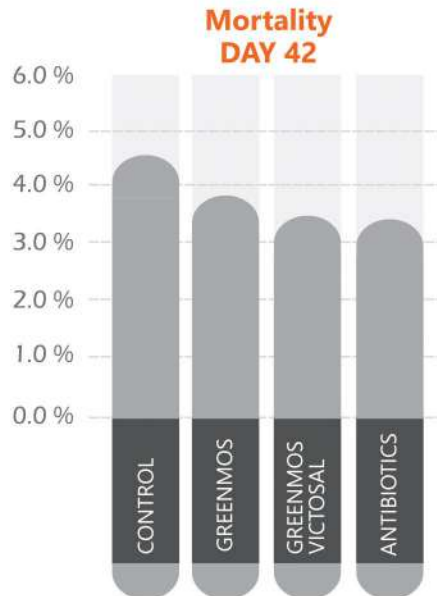
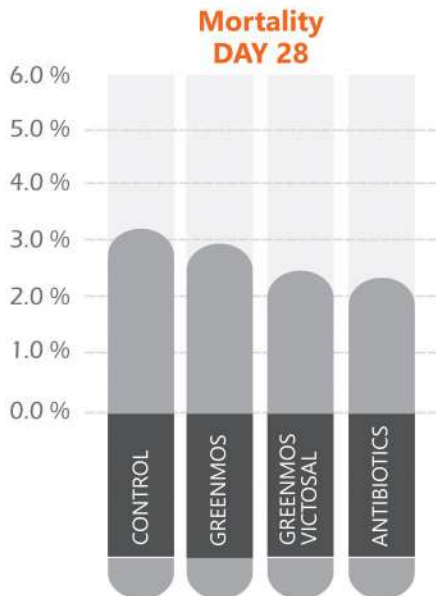
#### Duodenum villus height (µm) - DAY 42



So small thing but big difference!



Large surface area is the key for optimal digestive function, therefore the surface of intestine should be covered with long healthy villi.



# Healthy RUMENFUNCTION

GreenYeast optimizes rumen function, nutrient digestion, N utilization, reduces the risk of rumen acidosis and improves animal performance.

✓ We bring you the best quality with excellent raw materials, continuous sample tests. We have a wide range of standard and tailor-made solutions, serving all of your need. BAF offers technical services to poultry, cattle farmers and feed mills.



**INCREASED**  
dry matter  
intake



**IMPROVED**  
fiber  
digestion



**IMPROVED**  
feed  
efficiency



**INCREASED**  
milk  
yield

## COMPOSITION



### ACTIVE SACCHAROMYCES CEREVISIAE

Among yeasts, *S. cerevisiae* is unique in being able to restrict respiration and increase fermentative metabolism on glucose, even in the presence of oxygen.

**Increased anaerobic bacteria population**  
consumes oxygen / effect fermentation and microbial protein synthesis

BENEFICIAL BACTERIA

**Maintenance of optimal rumen function**  
by stabilizing pH, limiting acidosis in high-energy diets

CELLULOLYTIC BACTERIA

LACTIC ACID UTILIZATION

**Increased cellulose digesting bacteria**  
pH optimum 6.5-6.0 / decreased risk of high-energy diet

**Stabilized pH**  
stimulate lactic acid consuming bacteria, resulting propionic acid

FIBER DIGESTION

DIGESTIVE STRESS

**Increased fiber digestion**  
by removing oxygen and competing for sugars, rumen bacteria attach onto fiber

DRY MATTER INTAKE

**Decreased digestive stress, increased dry**  
by healthy rumen environment



PERFORMANCE

Increased weight gain/milk yield

USAGE:

RUMINANT 1 kg/ton

# Efficient ENERGY UTILIZATION

Enzymes improve non-starch polysaccharide and protein digestibility.

We bring you the best quality with excellent raw materials, continuous sample tests. We have a wide range of standard and tailor-made solutions, serving all of your need. BAF offers technical services to poultry, cattle farmers and feed mills.

## PHYTASE

hydrolysis of phytic acid

## XYLANASE

non-starch polysaccharide (NSP) degrading

## PROTEASE

releasing starch encapsulated by storage proteins

## GLUCANASE

breaking down of glucan (polysaccharide)

## AMYLASE

increases starch digestibility

## CELLULOSE

hydrolysis of cellulose

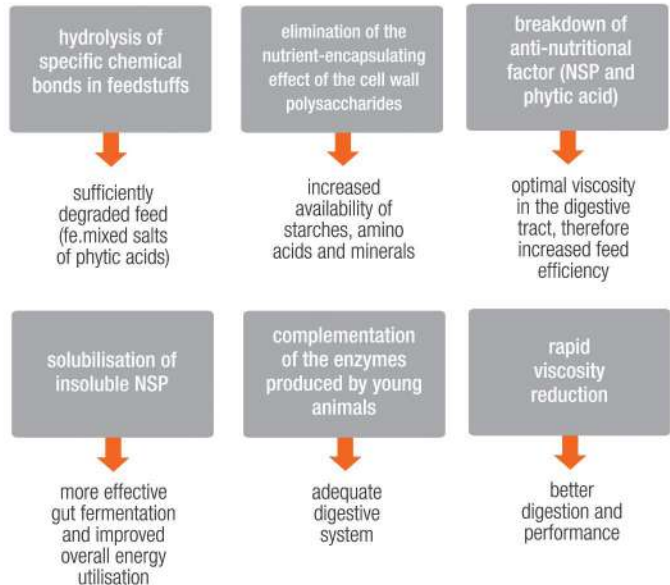
  
**BETTER ABSORPTION**

  
**BROAD SPECTRUM**

  
**DECREASED VISCOSITY**

  
**IMPROVED FCR**

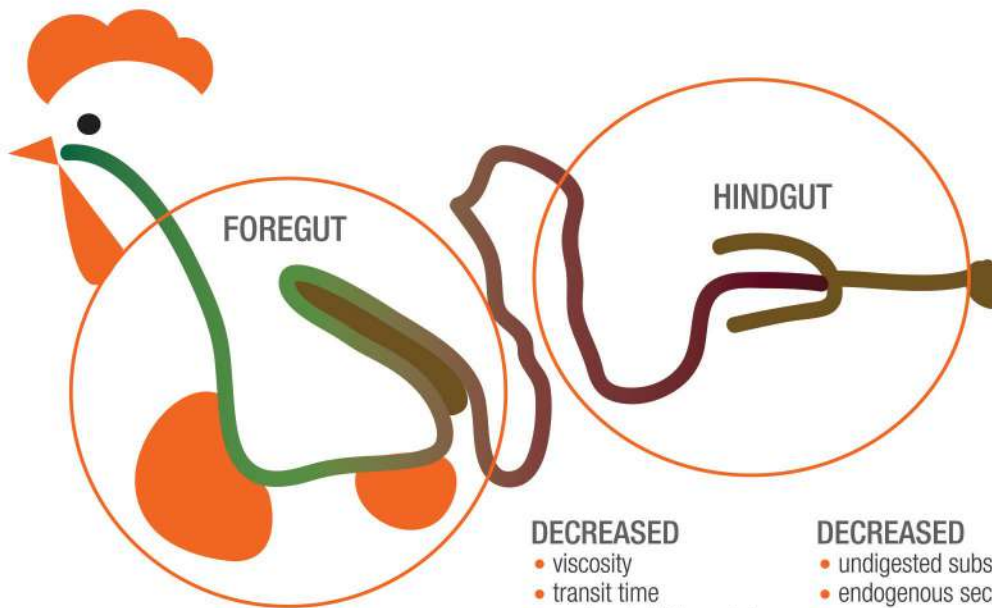
## COMPOSITION



### USAGE:

BROILER 0.5 kg/ton

LAYER 0.35 kg/ton



**FOREGUT**

**HINDGUT**

**DECREASED**

- viscosity
- transit time
- undigested fat, proteins

**DECREASED**

- undigested substrates
- endogenous secretions

**IMPROVED**

- litter moisture
- phosphorus release

**INCREASED**

- NSP oligosaccharides

**IMPROVED**

- water to feed ratio

**Zyme Optima M**

- Xylanase
- Protease
- Glucanase
- Amylase
- Cellulase

**Zyme Optima MW\***

- Xylanase
- Protease
- Glucanase
- Amylase
- Cellulase

**Zyme Optima MP**

- Phytase
- Xylanase
- Protease
- Glucanase
- Amylase
- Cellulase

**Zyme Optima P**

- Phytase

To fully realize the economic potential of enzymes, the amount of ME and amino acid released by enzymes need to be evaluated. The nutrient matrix values for enzymes indicate the amount of nutrient that could be released when the enzymes are added to diet.

# Salmonella INHIBITOR ACIDIFIER

Controlled microbial growth and inhibition of pathogenic bacteria throughout the entire gastro-intestinal tract for better feed efficiency and improved daily gains.

✓ We bring you the best quality with excellent raw materials, continuous sample tests. We have a wide range of standard and tailor-made solutions, serving all of your need. BAF offers technical services to poultry, cattle farmers and feed mills.

Functionality of the digestive tract is affected by both **feeding management** and **diet characteristic**

INTERMITTENT /  
AD-LIBITUM

MASH /  
PELLETING



**INCREASED**  
dry matter  
intake



**IMPROVED**  
fiber  
digestion



**IMPROVED**  
feed  
efficiency

## USAGE:

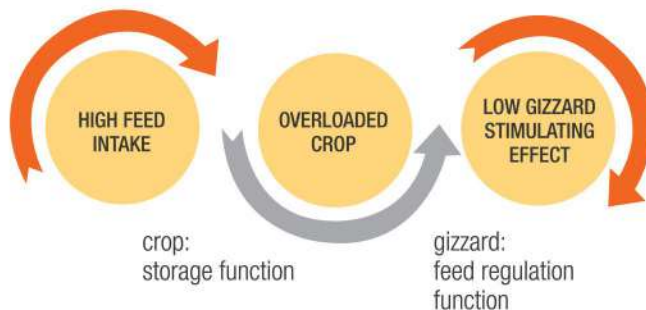
BROILER 1 kg/ton

LAYER / BREEDER 1-3 kg/ton

## COMPOSITION

Modern feeding may cause an overload.

**What happens if the digestive tract is overloaded?**

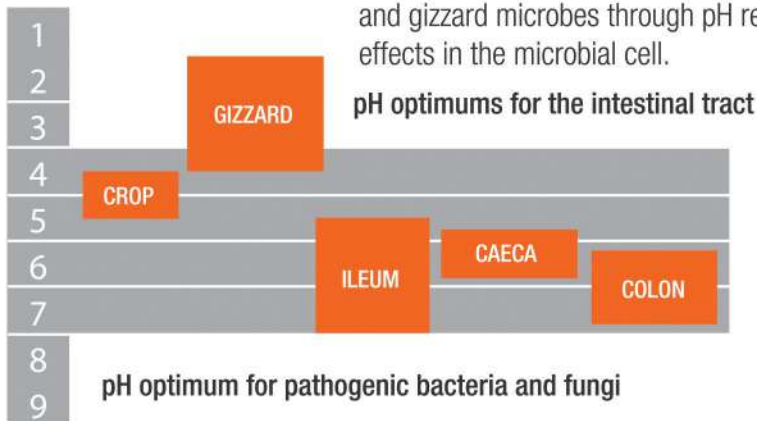


 CA-FORMATE

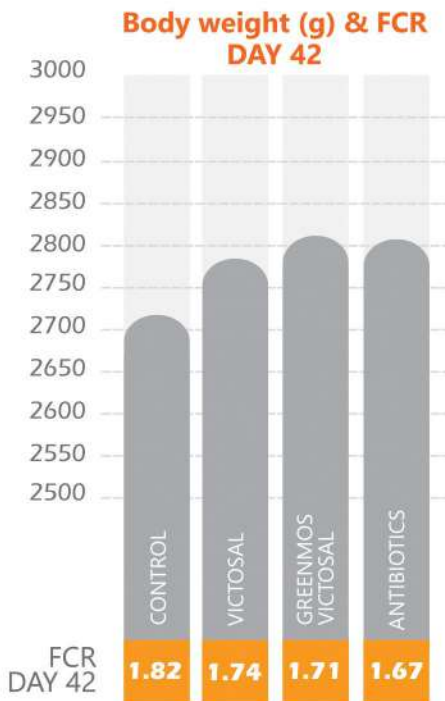
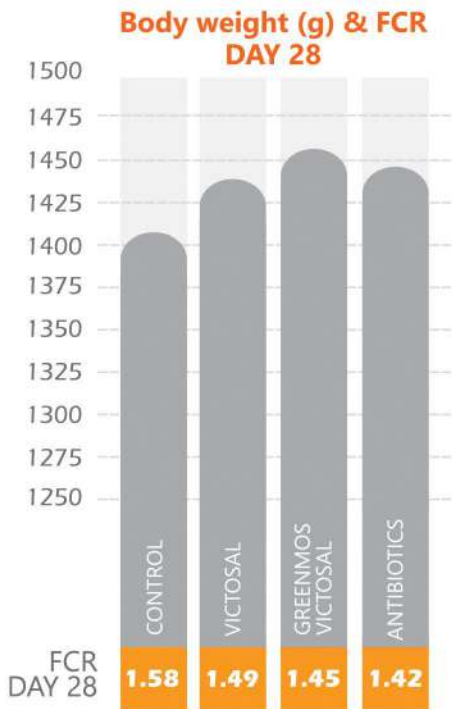
 CA-PROPIONATE



Organic salts exert the bacteria growth inhibiting effects on crop and gizzard microbes through pH reduction and anion-proton effects in the microbial cell.



Salmonella 7.2 / 6.8  
 Escherichia coli 8.0 / 6.0  
 Clostridium 7.0 / 6.0  
 Listeria 9.6 / 4.0  
 Fusarium 7.0 / 5.5  
 Aspergillus 7.5 / 6.5  
 Penicillium 9.0 / 4.5  
 Mucor 5.8 / 4.5



**Ca-Formate and Ca-Propionate suppress mold and bacteria growth.**

inhibition of bacteria's metabolic functions

modification of bacteria's internal pH

disruption of bacteria's cellular membrane





**AGRICULTURE IS THE MOST  
HEALTHFUL, MOST USEFUL AND  
MOST NOBLE EMPLOYMENT OF  
MAN.**

- George Washington -







**ORRAJ**  
TRADING & SERVICES

## CONTACT US

+974 33157470  
m.barakat@orraj.com

+974 70533332  
m.chabarek@orraj.com

sales@orraj.com

## CONTACT US

☎ +974 33157470

✉ [m.barakat@orraj.com](mailto:m.barakat@orraj.com)

☎ +974 70533332

✉ [m.chabarek@orraj.com](mailto:m.chabarek@orraj.com)

✉ [sales@orraj.com](mailto:sales@orraj.com)